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SEARCH REQUEST FORM

Requester's Full Name: SABITA GAZI Examiner #: 74141 Date: 11/16/05
Art Unit: 1616 Phone Number: 2-0622 Serial Number: 09/733 611
Location (Bldg/Room#): 4445 (Mailbox #): 4670 Results Format Preferred (circle): PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Methods of Sterilization with Dipercarboxylic acids

Inventors (please provide full names):

Singh et al

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for method of preparing
dipercarboxylic acid solutions
as in Cls 1 - 10, 17, 28 - 38, 40 - 49, 51

Please see attached sheet.

Thank you.

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Searcher: Jan

Searcher Phone #: 22604

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Date Searcher Picked Up: 12.1.05

Date Completed: 12.1.05

Searcher Prep & Review Time: 15

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Type of Search

____ NA Sequence (#)

____ AA Sequence (#)

☒ Structure (#)

____ Bibliographic

____ Litigation

____ Fulltext

____ Other

Vendors and cost where applicable

☒ STN _____ Dialog

____ Questel/Orbit _____ Lexis/Nexis

____ Westlaw _____ WWW/Internet

____ In-house sequence systems

____ Commercial _____ Oligomer _____ Score/Length

____ Interference _____ SPDI _____ Encode/Transl

____ Other (specify)

=> fil reg

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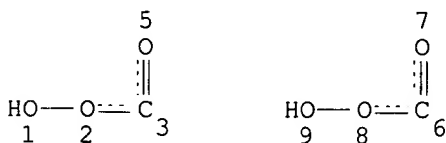
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=> d sta que 123

L21 STR



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CONNECT IS M1 RC AT 3
 CONNECT IS M1 RC AT 6
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

L23 224 SEA FILE=REGISTRY CSS FUL L21

100.0% PROCESSED 4504 ITERATIONS
 SEARCH TIME: 00.00.01

224 ANSWERS

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(FILE 'HOME' ENTERED AT 13:34:44 ON 01 DEC 2005)
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 13:34:54 ON 01 DEC 2005

E DIPERGLUTARIC ACID/CN
 L1 1 S E3
 E DIPERADIPIC ACID/CN
 L2 1 S E3
 E DIPERPIMELIC ACID/CN
 L3 1 S E3
 E DIPERSUBERIC ACID/CN
 L4 1 S E3
 E DIPERAZELAIC ACID/CN
 L5 1 S E3
 L6 5 S L1-L5
 E C2H2O4/MF
 E C3H4O4/MF
 E C2H2O6/MF
 L7 3 S E3
 L8 1 S L7 AND ETHANEDIPEROXOIC ACID/CN
 E C3H4O6/MF
 L9 6 S E3
 L10 1 S L9 AND PROPANEDIPEROXOIC ACID/CN
 E C11H20O6/MF
 L11 168 S E3 AND ACID
 L12 4 S L11 AND ?PEROXOIC?/CNS
 L13 1 S L12 AND UNDECANEDIPEROXOIC
 E C12H22O6/MF
 L14 6 S E3 AND ACID AND ?DIPEROXOIC?/CNS
 L15 1 S L14 AND DODECANEDIPEROXOIC
 L16 9 S L8,L10,L6,L13,L15,L10
 E C3H4O6/MF
 E C4H6O6/MF
 L17 1 S E3 AND ?DIPEROXOIC?/CNS
 E C10H18O6/MF
 L18 4 S E3 AND ?DIPEROXOIC?/CNS
 L19 1 S L18 AND DECANEDIPEROXOIC
 L20 11 S L16,L17,L19
 L21 STR
 L22 9 S L21 CSS SAM
 L23 224 S L21 CSS FUL
 SAV TEMP L23 QAZI733/A
 L24 95 S L23 AND NC>=2
 L25 31 S L24 NOT (MXS OR PMS)/CI
 L26 16 S L25 AND SALT
 L27 3 S L26 AND S/ELS
 L28 13 S L26 NOT L27
 L29 129 S L23 NOT L24

FILE 'HCAOLD' ENTERED AT 13:49:48 ON 01 DEC 2005

L30 31 S L20 OR L28 OR L29
 L31 1 S L30 AND BLEACH?
 L32 30 S L30 NOT L31

SEL AN L31
EDIT /AN /OREF

FILE 'HCAPLUS' ENTERED AT 13:51:19 ON 01 DEC 2005

L33 2 S E1
L34 1 S L33 NOT MURAI ?/AU
L35 544 S L20 OR L28 OR L29
L36 0 S L34 AND L35
L37 1 S (US20020107288 OR US20020188026)/PN OR (US2000-733611# OR US2
E SINGH W/AU
L38 9 S E3,E8
L39 23 S E15-E18
E WAHEGURU/AU
E GILETTO A/AU
L40 16 S E3,E4
E HITCHENS G/AU
L41 49 S E4-E5
E LYNNTECH/PA,CS
L42 126 S E3-E25
E LYNN TECH/PA,CS
L43 2 S L35 AND L37-L42
E CARBOXYLIC ACID/CT
L44 1400 S CARBOXYLIC ACIDS?/CT (L) PEROX?
L45 66 S CARBOXYLIC ACIDS?/CT (L) PEROX?(L)DI
L46 5 S L37-L42 AND L44,L45
L47 5 S L43,L46
SEL AN DN 2 3 4
L48 3 S L47 AND E1-E9
L49 69 S (L20 OR L28 OR L29) (L)PREP+NT/RL
L50 65 S L49 AND (PY<=2000 OR PRY<=2000 OR AY<=2000)
L51 4 S L49 AND DRY?
L52 4 S L49 AND ?POWD?
L53 1 S L49 AND HYDRAT?
L54 28 S L49 AND (H2O OR WATER)
L55 4 S L51,L52 AND L53,L54
SEL DN AN 1 3
L56 2 S L55 AND E10-E15
L57 24 S L54,L53 NOT L55
SEL DN AN 2 12
L58 2 S L57 AND E16-E21
L59 35 S L50 NOT L51-L58
L60 28 S L59 AND (H2O2 OR HYDROGEN PEROXIDE)
L61 7 S L59 NOT L60
L62 7 S L34,L48,L56,L58 AND L33-L61
L63 1 S L62 AND L34
L64 6 S L62 NOT L63

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=> fil hcaold

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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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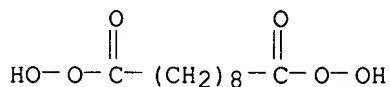
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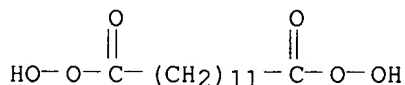
=> d all hitstr l31

L31 ANSWER 1 OF 1 HCAOLD COPYRIGHT 2005 ACS on STN
 AN CA56:2528i CAOLD
 TI detergent **bleaching** compns. containing inclusion compds.
 AU Meerkamp van Embden, Jan C.; Boldingh, J.
 PA Unilever Ltd.
 DT Patent

	PATENT NO.	KIND	DATE
	-----	-----	----
PI	GB 847702		
	US 3167513		1965
IT	2388-12-7	5796-85-0	68575-79-1
IT	5796-85-0	68575-79-1	
RN	5796-85-0	HCAOLD	
CN	Decanediperoxoic acid (9CI) (CA INDEX NAME)		



RN 68575-79-1 HCAOLD
 CN Tridecanediperoxoic acid (9CI) (CA INDEX NAME)



=> fil hcaplus

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FILE LAST UPDATED: 30 Nov 2005 (20051130/ED)

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=> d all 163

L63 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1962:13297 HCAPLUS

DN 56:13297

OREF 56:2528i,2529a,2530a

ED Entered STN: 22 Apr 2001

TI Detergent bleaching compositions containing inclusion compounds

IN Embden, Jan Cirksema Meerkamp Van; Boldingh, Jan

PA Unilever Ltd.

DT Patent

LA Unavailable

CC 42 (Surface-Active Agents and Detergents)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	GB 847702			GB	19580307
	US 3167513		1965	US	
PRAI	GB		19580307		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
-----	-----	-----
US 3167513	NCL	252/186.260; 252/186.420; 510/310.000; 510/375.000; 510/501.000; 514/574.000

AB Inclusion compds., such as NH₂CONH₂ treated with percarboxylic acids, are used as bleaching agents. The most effective are the C₄-20 percarboxytic acids, C₁₀-20 ω-dicarboxylic acids, C₆-10 permonocarboxylic acids, and C₁₀-14 perdicarboxylic acids. Thus, 0.7 g. dipersebatic acid, obtained from the reaction with 30% H₂O₂ and concentrated H₂SO₄ at 10°, was treated with 2.4 g. NH₂CONH₂ for 30 min. at 65-70° to give 3.1 g. impure NH₂CONH₂ inclusion compound. The bleaching action is superior to perborate and is the result of the slow liberation of O.

IT Peroxides
(acyl, inclusion compds. with urea, cleaning compns. containing bleaches from)

IT Peroxy acids
(compds. with urea, cleaning compns. containing bleaches of)

IT Cleaning compositions
(with bleaches from urea inclusion compds. with peroxy acids)

IT Urea, compds. of, with peroxy acids

IT Peroxytridecanedioic acid, compds. with urea
(cleaning compns. containing)

IT 85896-91-9, Peroxylauric acid, compds. with urea 856821-18-6,
Peroxysеbatic acid, compds. with urea
(cleaning compns. containing)

IT 75-21-8, Ethylene oxide
(reaction products of, with 2-dicyclohexylaminoethanol, salts with acids, surface-active)

=> d all hitstr tot 164

L64 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:39454 HCAPLUS
 DN 140:101107
 ED Entered STN: 16 Jan 2004
 TI Electrochemical method for preparing peroxy acids
 IN Tennakoon, Charles L. K.; McKenzie, K. Scott; Will, Michelle; McGrew, Elizabeth I. H.
 PA Lynntech, Inc., USA
 SO U.S. Pat. Appl. Publ., 18 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C25D017-00
 ICS C25C007-00
 INCL 205343000; 205465000; 205466000; 204252000
 CC 72-9 (Electrochemistry)
 Section cross-reference(s): 23, 38, 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004007476	A1	20040115	US 2002-191815	20020709
	US 6949178	B2	20050927		
	WO 2004005246	A2	20040115	WO 2003-US21492	20030709
	WO 2004005246	A3	20041111		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP	1523588	A2	20050420	EP 2003-763411	20030709
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI	US 2002-191815	A	20020709		
	WO 2003-US21492	W	20030709		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004007476	ICM	C25D017-00
	ICS	C25C007-00
	INCL	205343000; 205465000; 205466000; 204252000
US 2004007476	NCL	205/343.000
	ECLA	A61L002/18; C02F001/467B; C25B003/04
WO 2004005246	ECLA	A61L002/18; C02F001/467B; C25B003/04

AB A method and apparatus for the generation and collection of an aqueous peroxy acid solution at the cathode of a PEM electrolyzer. The electrochem. process introduces carboxylic acid (such as distilled table vinegar, lactic acid, citric acid or combinations) to the anode and a source of oxygen to the cathode. The PEM electrolyzer has a gas diffusion cathode having a cathodic electrocatalyst that is capable of hydrogen peroxide generation. The peracid solution is generated at the gas diffusion cathode and the solution is very pure and may be used for disinfecting or sterilizing various items

- or solns. In a second embodiment, the carboxylic acid may be provided directly to the cathode, such as in the form of an acid vapor.
- ST org peroxyacids electrosynthesis gas diffusion cathode oxygen electrocatalysis
- IT Catalysts
(electrocatalysts; electrochem. preparation of peroxy acids from in electrolytic cell with electrodes coated with)
- IT Peroxy acids
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PREP (Preparation); PROC (Process)
(electrochem. preparation of)
- IT Vinegar
(electrochem. preparation of peroxy acids from)
- IT **Carboxylic acids, reactions**
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrochem. preparation of **peroxy** acids from)
- IT Polymer electrolytes
Solid electrolytes
(electrochem. preparation of peroxy acids from in electrolytic cell with)
- IT Synthesis
(electrochem.; electrochem. preparation of peroxy acids from carboxylic acids)
- IT Carbon fibers, uses
RL: DEV (Device component use); USES (Uses)
(fabrics; electrochem. preparation of peroxy acids from in electrolytic cell with cathode from)
- IT Current density
(for electrochem. preparation of peroxy acids from carboxylic acids)
- IT Electrodes
(gas-diffusion; electrochem. preparation of peroxy acids from in electrolytic cell with Ti porous electrode)
- IT Electrolytic cells
(membrane; for electrochem. preparation of peroxy acids)
- IT Reduction, electrochemical
(of oxygen in process of electrochem. preparation of peroxy acids from carboxylic acids)
- IT Electrodes
(porous; electrochem. preparation of peroxy acids from in electrolytic cell with)
- IT Ion exchange membranes
(proton; electrochem. preparation of peroxy acids from in electrolytic cell with)
- IT 50-21-5, Lactic acid, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrochem. preparation of peroxy acids from)
- IT 7440-32-6, Titanium, uses
RL: DEV (Device component use); USES (Uses)
(electrochem. preparation of peroxy acids from in electrolytic cell with Ti porous electrode)
- IT 28903-71-1
RL: CAT (Catalyst use); USES (Uses)
(electrochem. preparation of peroxy acids from in electrolytic cell with electrodes coated with)
- IT 66796-30-3, Nafion 117
RL: NUU (Other use, unclassified); USES (Uses)
(electrochem. preparation of peroxy acids from in electrolytic cell with proton exchange membrane)

IT 7782-44-7, Oxygen, reactions
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (use for electrochem. preparation of peroxy acids from carboxylic acids)

L64 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:394260 HCAPLUS

DN 138:370696

ED Entered STN: 23 May 2003

TI A cleaning composition comprising amido or imido peroxyacids

IN Coope, Janet Lynn; Madison, Stephen Alan; Hessel, John Frederick; Kuzmenka, Daniel Joseph; Humph-Keys, Robert William Riley

PA Hindustan Lever Ltd., India

SO Indian, 38 pp.

CODEN: INXXAP

DT Patent

LA English

IC ICM C11D003-39

ICS C11D003-395

CC 46-5 (Surface Active Agents and Detergents)

Section cross-reference(s): 23

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI IN 177733	A	19970215	IN 1993-BO89	19930330 <--
PRAI IN 1993-BO89		19930330	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
IN 177733	ICM	C11D003-39
	ICS	C11D003-395

OS MARPAT 138:370696

AB An aqueous cleaning composition includes an amido or imido organic peroxyacid having

H₂O solubility <1 x 10⁻⁴ M, a structured surfactant, and a pH-adjusting system for maintaining pH 3.5-8.5 during storage and, upon dilution with a wash H₂O, causing pH to rise by ≥0.5 pH units. An example cleaner contained a base formulation of water 38.1, sorbitol 19.6, borax 5.0, NaOH 2.9, decoupling polymer 1.0, Neodol 25-9 10.5, LAS 22.9 parts, and a stably dispersed peracid.

ST amido peracid bleach surfactant pH adjuster laundry detergent

IT Alcohols, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (C12-15, ethoxylated; composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT Bleaching agents

Surfactants

(composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT Detergents

(laundry; composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT 42967-55-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT 133725-71-0P 153462-03-4P 153462-04-5P

153462-05-6P 153462-07-8P 153462-08-9P

153462-09-0P 153462-10-3P 153462-11-4P

153462-12-5P 153462-15-8P 521075-27-4P 521075-28-5P
521291-24-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT 60-32-2, 6-Aminocaproic acid 62-53-3, Aniline, reactions 67-56-1, Methanol, reactions 85-44-9, Phthalic anhydride 89-32-7 95-54-5, 1,2-Phenylenediamine, reactions 98-88-4, Benzoyl chloride 100-20-9, Terephthaloyl chloride 106-50-3, 1,4-Phenylenediamine, reactions 107-15-3, Ethylenediamine, reactions 110-60-1, 1,4-Butanediamine 110-85-0, Piperazine, reactions 120-61-6, Dimethyl terephthalate 150-13-0, 4-Aminobenzoic acid 543-20-4, Succinyl chloride 619-45-4, Methyl 4-aminobenzoate 626-86-8, Adipic acid monoethyl ester 7377-26-6, 4-Carbomethoxybenzoyl chloride 7719-09-7, Thionyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT 50-70-4, Sorbitol, uses 98-11-3D, Benzenesulfonic acid, alkyl derivs. 1303-96-4, Borax

RL: TEM (Technical or engineered material use); USES (Uses)

(composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

IT 582-80-9P 1071-71-2P 2409-13-4P 3814-10-6P 7060-10-8P 37410-63-2P 56419-58-0P 68509-04-6P 70142-79-9P 76521-05-6P 102810-33-3P 153682-30-5P 153682-31-6P 313229-96-8P 521291-23-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

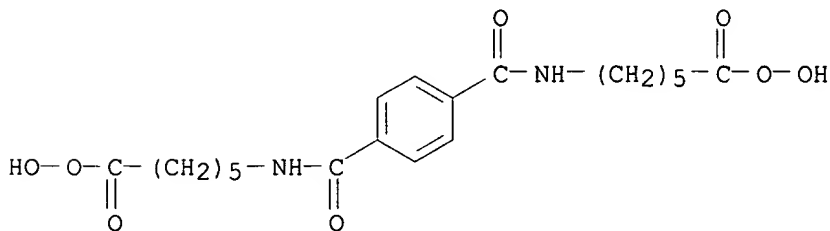
IT 133725-71-0P 153462-03-4P 153462-04-5P 153462-05-6P 153462-07-8P 153462-08-9P 153462-09-0P 153462-10-3P 153462-11-4P 153462-15-8P 521075-28-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(composition of amido or imido peroxyacids, structured surfactant and pH-adjuster for heavy-duty fabric laundering)

RN 133725-71-0 HCAPLUS

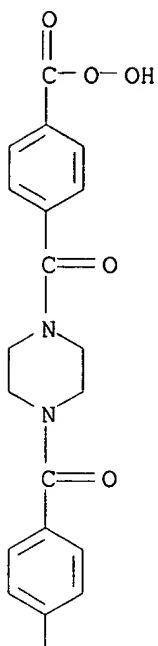
CN Hexaneperoxoic acid, 6,6'-[1,4-phenylenebis(carbonylimino)]bis- (9CI) (CA INDEX NAME)



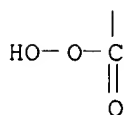
RN 153462-03-4 HCAPLUS

CN Benzenecarboperoxoic acid, 4,4'-(1,4-piperazinediyl)dicarbonyl)bis- (9CI) (CA INDEX NAME)

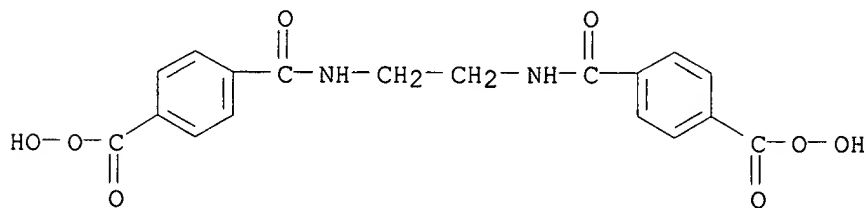
PAGE 1-A



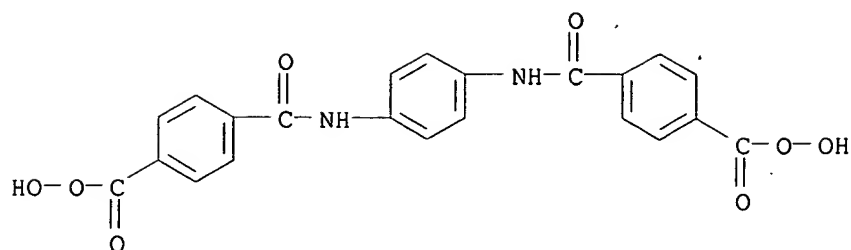
PAGE 2-A



RN 153462-04-5 HCAPLUS
 CN Benzenecarboperoxoic acid, 4,4'-[1,2-ethanediylbis(iminocarbonyl)]bis-
 (9CI) (CA INDEX NAME)

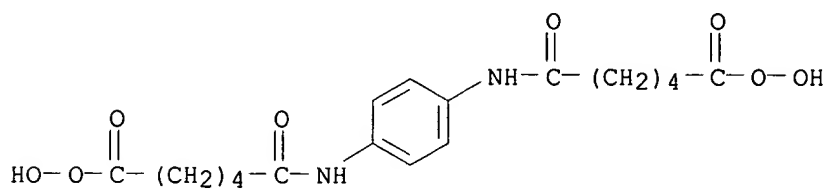


RN 153462-05-6 HCAPLUS
 CN Benzenecarboperoxoic acid, 4,4'-[1,4-phenylenebis(iminocarbonyl)]bis-
 (9CI) (CA INDEX NAME)



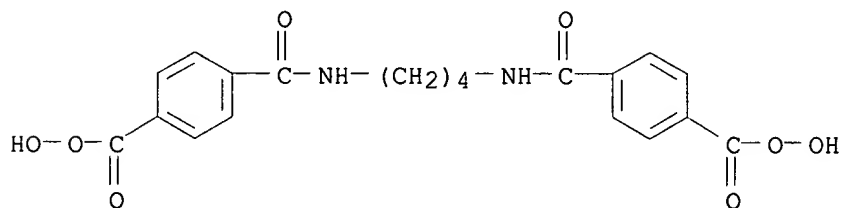
RN 153462-07-8 HCAPLUS

CN Hexaneperoxoic acid, 6,6'-(1,4-phenylenediimino)bis[6-oxo- (9CI) (CA INDEX NAME)



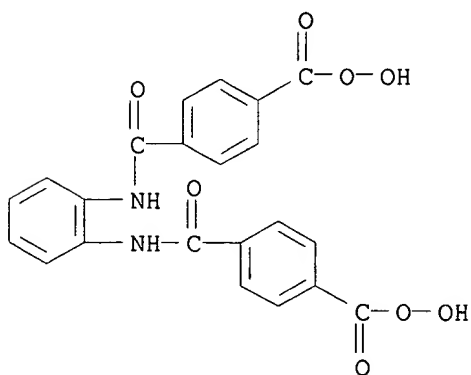
RN 153462-08-9 HCAPLUS

CN Benzenecarboperoxoic acid, 4,4'-[1,4-butanediylbis(iminocarbonyl)]bis- (9CI) (CA INDEX NAME)

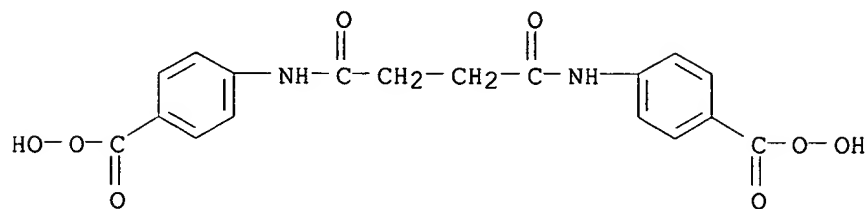


RN 153462-09-0 HCAPLUS

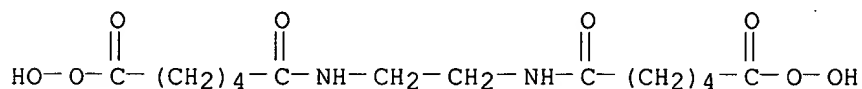
CN Benzenecarboperoxoic acid, 4,4'-[1,2-phenylenebis(iminocarbonyl)]bis- (9CI) (CA INDEX NAME)



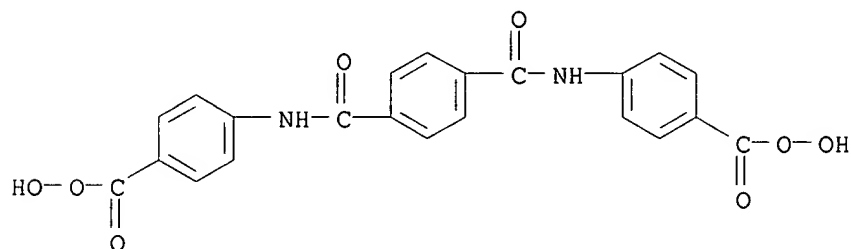
RN 153462-10-3 HCAPLUS

CN Benzenecarboperoxoic acid, 4,4'-[(1,4-dioxo-1,4-butanediyl)diimino]bis-
(9CI) (CA INDEX NAME)

RN 153462-11-4 HCAPLUS

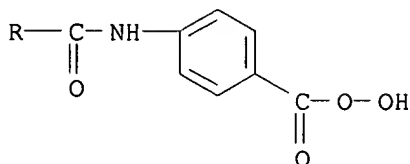
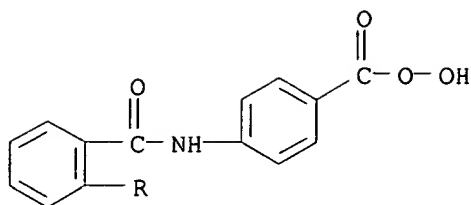
CN Hexaneperoxoic acid, 6,6'-(1,2-ethanediylldiimino)bis[6-oxo- (9CI) (CA
INDEX NAME)

RN 153462-15-8 HCAPLUS

CN Benzenecarboperoxoic acid, 4,4'-[1,4-phenylenebis(carbonylimino)]bis-
(9CI) (CA INDEX NAME)

RN 521075-28-5 HCAPLUS

CN Benzenecarboperoxoic acid, 4,4'-[1,2-phenylenebis(carbonylimino)]bis-
(9CI) (CA INDEX NAME)



L64 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:595512 HCAPLUS

DN 137:145669

ED Entered STN: 09 Aug 2002

TI Methods of sterilizing with dipercarboxylic acids

IN Singh, Waheguru Pal; Giletto, Anthony; Hitchens,
G. Duncan

PA USA

SO U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K031-19

INCL 514557000

CC 63-8 (Pharmaceuticals)

Section cross-reference(s): 23

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002107288	A1	20020808	US 2000-733611	20001208 <--
	US 2002188026	A1	20021212	US 2001-52908	20011029 <--
PRAI	US 2000-733611	A3	20001208	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002107288	ICM	A61K031-19
	INCL	514557000
US 2002107288	NCL	514/557.000
	ECLA	A01N037/16; A61L002/18; C07C409/24 <--
US 2002188026	NCL	514/574.000
	ECLA	A01N037/16; A61L002/18; C07C409/24 <--

AB **Dry** dipercarboxylic acid material and methods of using **dry** dipercarboxylic acid particulates to form novel sterilizing solns. or liquid chemical germicides. The dipercarboxylic acids or organic diperoxygen compds. can be synthesized and isolated as solid **powders** with an extended shelf life. The **powders** are also soluble in **water** for quickly preparing liquid disinfectant solns., whenever and wherever desired, from a potable **water** source. The **dry** dipercarboxylic acid materials are selected from diperglutaric acid, diperadipic acid, diperpimelic acid, dipersuberic acid, and

diperazelaic acid. Upon dissoln. into **water**, these compds. have demonstrated the ability to inactivate high nos. of spores, including sterilization of medical equipment in 10 min at room temperature The average

dim. of zone of inhibition of diperglutaric acid at a concentration of 0.33% against Staphylococcus aureus, Pseudomonas aeruginosa, and Escherichia coli was 10 mm, while glutaric acid at 1% had no zone of inhibition.

ST sterilization dipercarboxylic acid germicides

IT Quaternary ammonium compounds, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (aliphatic long chain; methods of sterilizing with dipercarboxylic acids)

IT Fatty acids, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (aliphatic; methods of sterilizing with dipercarboxylic acids)

IT Alkali metal salts
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (**hydrated**; methods of sterilizing with dipercarboxylic acids)

IT Disinfectants
 Solubilizers
 Sporicides
 (methods of sterilizing with dipercarboxylic acids)

IT Alkaline earth salts
 Salts, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (methods of sterilizing with dipercarboxylic acids)

IT **Carboxylic acids, biological studies**
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (**peroxy, di-**; methods of sterilizing with dipercarboxylic acids)

IT 7487-88-9, Magnesium sulfate, biological studies 7757-82-6, Sodium sulfate, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (methods of sterilizing with dipercarboxylic acids)

IT **1941-79-3P**, Diperazelaic acid. **2455-27-8P**, Diperpimelic acid **5824-51-1P**, Diperadipic acid **28317-46-6P**, Diperglutaric acid **28317-47-7P**, Dipersuberic acid
 RL: BUU (Biological use, unclassified); **SPN (Synthetic preparation)**; BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
 (methods of sterilizing with dipercarboxylic acids)

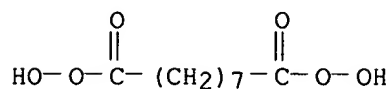
IT 64-17-5, Ethanol, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (methods of sterilizing with dipercarboxylic acids)

IT 7722-84-1, Hydrogen peroxide., reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (methods of sterilizing with dipercarboxylic acids)

IT **1941-79-3P**, Diperazelaic acid. **2455-27-8P**, Diperpimelic acid **5824-51-1P**, Diperadipic acid **28317-46-6P**, Diperglutaric acid **28317-47-7P**, Dipersuberic acid
 RL: BUU (Biological use, unclassified); **SPN (Synthetic preparation)**; BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
 (methods of sterilizing with dipercarboxylic acids)

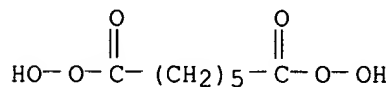
RN 1941-79-3 HCAPLUS

CN Nonanediperoxoic acid (9CI) (CA INDEX NAME)



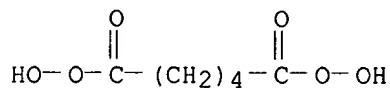
RN 2455-27-8 HCAPLUS

CN Heptanediperoxoic acid (9CI) (CA INDEX NAME)



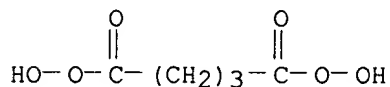
RN 5824-51-1 HCAPLUS

CN Hexanediperoxoic acid (9CI) (CA INDEX NAME)



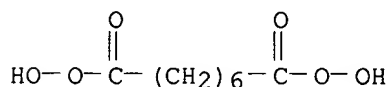
RN 28317-46-6 HCAPLUS

CN Pentanediperoxoic acid (9CI) (CA INDEX NAME)



RN 28317-47-7 HCAPLUS

CN Octanediperoxoic acid (9CI) (CA INDEX NAME)



L64 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:545466 HCAPLUS

DN 135:127208

ED Entered STN: 27 Jul 2001

TI Control of microbial populations in the gastrointestinal tract of animals

IN McKenzie, K. Scott; **Giletto, Anthony; Hitchens, G.**

Duncan; Hargis, Billy M.; Herron, Kelly L.

PA **Lynnntech, Inc., USA**

SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K031-00

ICS A01N037-16; A01N059-00

CC 63-6 (Pharmaceuticals)

Section cross-reference(s) : 18

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001052827	A1	20010726	WO 2000-US8316	20000329
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6342528	B1	20020129	US 2000-487966	20000118
	EP 1248601	A1	20021016	EP 2000-919803	20000329
	EP 1248601	B1	20030910		
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL			
	AT 249210	E	20030915	AT 2000-919803	20000329
	US 2002115719	A1	20020822	US 2001-981669	20011017
	US 6518307	B2	20030211		
PRAI	US 2000-487966	A	20000118		
	WO 2000-US8316	W	20000329		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001052827	ICM	A61K031-00
	ICS	A01N037-16; A01N059-00
WO 2001052827	ECLA	A61K031/19+M; A61K031/191+M; A61K031/327; A61K033/04+M; A61K033/40+M; A61K045/06+M
US 6342528	NCL	514/557.000; 424/405.000; 514/574.000; 514/578.000
	ECLA	A61K031/19+M; A61K031/191+M; A61K031/327; A61K033/04+M; A61K033/40+M; A61K045/06+M
US 2002115719	NCL	514/557.000
	ECLA	A61K031/19+M; A61K031/191+M; A61K031/327; A61K033/04+M; A61K033/40+M; A61K045/06+M

OS MARPAT 135:127208

AB Biocides for ingestion by live animals contain an aqueous solution of a peracid compound or a mixture of an organic acid and an inorg. peroxide and methods for controlling microbial contamination in the gastrointestinal tract of live animals. Peroxy compds. such as peracetic acid, perlactic acid, or percitric acid were added to drinking water for broiler chickens and the biocidal activity evaluated.

ST peracid drinking water animal antimicrobial

IT Antimicrobial agents

Campylobacter

Digestive tract

Drinking waters

Escherichia coli

Helicobacter

Listeria

Poultry

Salmonella

(control of microbial populations in the gastrointestinal tract of animals)

IT Peroxy acids

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(control of microbial populations in the gastrointestinal tract of animals)

IT Drug delivery systems

(oral; control of microbial populations in the gastrointestinal tract of animals)

IT **Carboxylic acids, biological studies**

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(peroxy; control of microbial populations in the gastrointestinal tract of animals)

IT 75-91-2, tert-Butyl hydroperoxide 79-21-0, Peracetic acid 93-59-4D, Perbenzoic acid, derivs. 94-36-0, Benzoyl peroxide, biological studies 107-32-4, Performic acid 123-23-9, Succinyl peroxide 818-85-9, Heptaneperoxoic acid 2388-12-7, Perlauric acid 3058-35-3, Pernonanoic acid 3851-97-6, Monoperglutaric acid 4212-43-5, Perpropionic acid 13122-71-9, Perbutyric acid 21860-08-2, Perglycolic acid 28317-46-6, Diperglutaric acid 33734-57-5, Peroctanoic acid 75033-25-9, Perlactic acid 115900-27-1, Magnesium peroxyphthalate 127542-88-5

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(control of microbial populations in the gastrointestinal tract of animals)

IT 50-21-5, Lactic acid, biological studies 64-19-7, Acetic acid, biological studies 77-92-9, Citric acid, biological studies 7664-93-9, Sulfuric acid, biological studies 7722-84-1, Hydrogen peroxide, biological studies

RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(control of microbial populations in the gastrointestinal tract of animals)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Aquaclear International Limited; WO 9108981 A 1991 HCAPLUS

(2) Interlox Chemicals Limited; EP 0233731 A 1987 HCAPLUS

(3) Jean-Paul, H; US 4726948 A 1988 HCAPLUS

(4) Semper, A; WO 9726908 A 1997 HCAPLUS

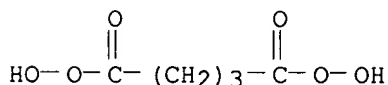
IT 28317-46-6, Diperglutaric acid 115900-27-1, Magnesium peroxyphthalate 127542-88-5

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(control of microbial populations in the gastrointestinal tract of animals)

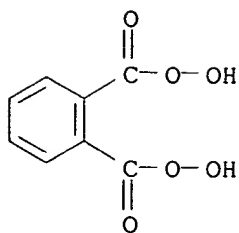
RN 28317-46-6 HCAPLUS

CN Pentanediperoxoic acid (9CI) (CA INDEX NAME)



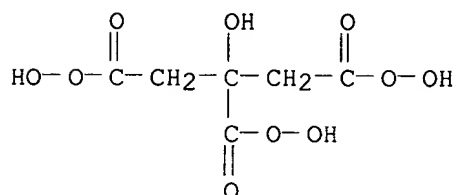
RN 115900-27-1 HCAPLUS

CN 1,2-Benzenedicarboperoxoic acid, magnesium salt (1:1) (9CI) (CA INDEX NAME)



● Mg

RN 127542-88-5 HCAPLUS
CN 1,2,3-Propanetricarboperoxoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



L64 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:201165 HCAPLUS
DN 112:201165
ED Entered STN: 26 May 1990
TI Heterocyclic peracids having an amide function and their use in detergent formulations
IN Venturello, Carlo; Cavallotti, Claudio
PA Ausimont S.r.l., Italy
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C07D211-46
ICS C07D207-16; C07D223-08; C11D003-395
CC 46-5 (Surface Active Agents and Detergents)
FAN.CNT 1

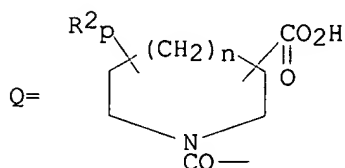
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 347724	A1	19891227	EP 1989-110722	19890613 <--
	R: AT, BE, CH, DE, ES, FR, GB, LI, NL, SE				
	IN 172851	A	19931218	IN 1989-CA443	19890612 <--
	CN 1038808	A	19900117	CN 1989-103993	19890613 <--
	CN 1020094	B	19930317		
	AU 8936299	A1	19900118	AU 1989-36299	19890613 <--
	AU 616016	B2	19911017		
	CA 1335815	A1	19950606	CA 1989-602622	19890613 <--
	KR 139295	B1	19980515	KR 1989-8142	19890613 <--
	BR 8902843	A	19900201	BR 1989-2843	19890614 <--
	JP 02067266	A2	19900307	JP 1989-152064	19890614 <--
	JP 2812717	B2	19981022		

US 5041546	A	19910820	US 1989-366512	19890614 <--
US 5179205	A	19930112	US 1991-687147	19910418 <--
US 5180516	A	19930119	US 1991-727022	19910708 <--
US 5292447	A	19940308	US 1992-946227	19920918 <--
PRAI IT 1988-20957	A	19880614	<--	
US 1989-366512	A3	19890614	<--	
US 1991-687147	A3	19910418	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 347724	ICM	C07D211-46
	ICS	C07D207-16; C07D223-08; C11D003-395
US 5041546	NCL	540/484.000; 510/310.000; 510/375.000; 510/500.000; 546/189.000; 546/242.000; 546/243.000; 546/244.000; 546/245.000; 548/518.000; 548/531.000 <--
US 5179205	NCL	546/189.000; 540/596.000; 540/597.000; 540/602.000; 546/188.000; 548/518.000; 548/519.000; 548/520.000 <--
US 5180516	NCL	252/186.100; 540/484.000; 546/242.000; 546/243.000; 546/244.000; 546/245.000; 548/531.000 <--
US 5292447	NCL	008/111.000; 252/186.420; 510/303.000; 510/305.000; 510/310.000; 510/372.000; 510/375.000; 510/500.000; 546/189.000; 546/245.000 <--

OS MARPAT 112:201165
GI



AB The title peracids useful as fabric bleach effective even at low medium temperature have the general formula $R(CH_2)_mR_1$ (R, R_1 = H, Q, excluding R = R_1)

=

H; R_2 = H, substituent inert to the active O of the peracid group and/or the preparation conditions; m = 1-12; n = 0-2; p = 1-3). N-Decanoyl-4-piperidinecarboxylic acid in MeSO₃H was oxidized with H₂O to give the corresponding peracid in 88% yield. In a bleaching test for soiled cotton fabric at 60°, this product showed bleaching 70.3% at pH 2-3, compared with 60.0 for H 48 (Mg monoperphthalate).

ST heterocyclic amide peracid laundry bleach; decanoylpiperidinepercarboxylic acid laundry bleach

IT Bleaching agents

(laundry, heterocyclic amide peracids, manufacture of)

IT Oxidation

(of acylpiperidinecarboxylic acids, by hydrogen peroxide)

IT Detergents

(laundry, heterocyclic amide peracid bleaches for, manufacture of)

IT 126884-56-8P 126884-57-9P 126884-58-0P 126884-59-1P

126884-61-5P

RL: PREP (Preparation)

(laundry bleaches, manufacture of)

IT 7722-84-1, Hydrogen peroxide, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation by, of acylpiperidinecarboxylic acids)

IT 5237-12-7 25503-90-6 111333-84-7 . 111333-90-5 126884-60-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, by hydrogen peroxide)

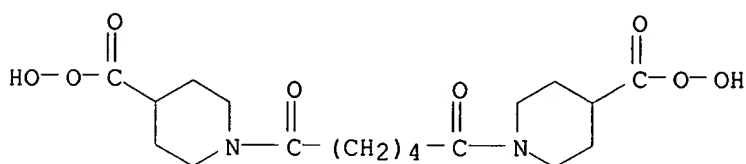
IT 126884-58-0P 126884-61-5P

RL: PREP (Preparation)

(laundry bleaches, manufacture of)

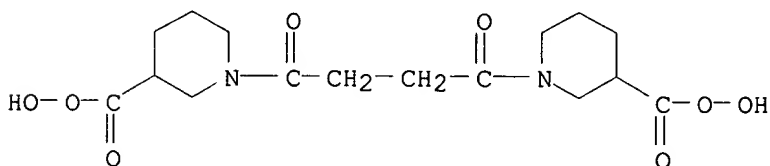
RN 126884-58-0 HCAPLUS

CN 4-Piperidinecarboperoxoic acid, 1,1'-(1,6-dioxo-1,6-hexanediyl)bis- (9CI)
(CA INDEX NAME)



RN 126884-61-5 HCAPLUS

CN 3-Piperidinecarboperoxoic acid, 1,1'-(1,4-dioxo-1,4-butanediyl)bis- (9CI)
(CA INDEX NAME)



L64 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1979:89121 HCAPLUS

DN 90:89121

ED Entered STN: 12 May 1984

TI **Drying** of bleaching agents

PA Procter and Gamble Co., USA

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC B01J002-00

CC 46-5 (Surface Active Agents and Detergents)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 53122680	A2	19781026	JP 1978-14827	19780210 <--
	JP 03032600	B4	19910513		
	US 4091544	A	19780530	US 1977-768013	19770211 <--
	DE 2805128	A1	19780817	DE 1978-2805128	19780207 <--
	DE 2805128	C2	19880414		
	FR 2380515	A1	19780908	FR 1978-3863	19780210 <--
	FR 2380515	B1	19840106		
PRAI	US 1977-768013	A	19770211	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 53122680	IC	B01J002-00
US 4091544	NCL	034/344.000

AB Bleaching agents were prepared by **drying** aqueous diperoxydodecanedioic acid (I) [66280-55-5] in presence of Na₂SO₄. Thus, a blend of 40% aqueous I 2.5, boric acid 1.5, Na₂SO₄ 6, and a surfactant paste (containing **water** 50, a C13 linear alkylbenzenesulfonate 27.6, and Na sulfate 23.4%) 0.7 part was extruded, cooled with air at 4.5-10°, cut, dried at 49-52° for 3 h, and cooled to give a bleaching agent.

ST peroxydodecanedioic acid bleaching agent; **drying** bleaching agent; sodium sulfate bleaching compn

IT Bleaching agents
(diperoxydodecanedioic acid, **drying** of, in presence of sodium sulfate)

IT **Drying**
(of diperoxydodecanedioic acid, in presence of sodium sulfate, for bleaching agents)

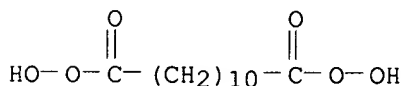
IT **66280-55-5P**
RL: **PREP (Preparation)**
(bleaching agents, **drying** of, in presence of sodium sulfate)

IT 7757-82-6, uses and miscellaneous
RL: **USES (Uses)**
(**drying** of diperoxydodecanedioic acid in presence of, for bleaching agents)

IT **66280-55-5P**
RL: **PREP (Preparation)**
(bleaching agents, **drying** of, in presence of sodium sulfate)

RN 66280-55-5 HCAPLUS

CN Dodecanediperoxoic acid (9CI) (CA INDEX NAME)



=> => fil uspatful

FILE 'USPATFULL' ENTERED AT 14:20:17 ON 01 DEC 2005

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 1 Dec 2005 (20051201/PD)

FILE LAST UPDATED: 1 Dec 2005 (20051201/ED)

HIGHEST GRANTED PATENT NUMBER: US6971121

HIGHEST APPLICATION PUBLICATION NUMBER: US2005268363

CA INDEXING IS CURRENT THROUGH 1 Dec 2005 (20051201/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 1 Dec 2005 (20051201/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2005

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2005

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>>> USPAT2 is now available.  USPATFULL contains full text of the  <<<
>>> original, i.e., the earliest published granted patents or  <<<
>>> applications.  USPAT2 contains full text of the latest US  <<<
>>> publications, starting in 2001, for the inventions covered in  <<<
>>> USPATFULL.  A USPATFULL record contains not only the original  <<<
>>> published document but also a list of any subsequent  <<<
>>> publications.  The publication number, patent kind code, and  <<<
>>> publication date for all the US publications for an invention  <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL  <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc.  <<<
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>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

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This file contains CAS Registry Numbers for easy and accurate substance identification.

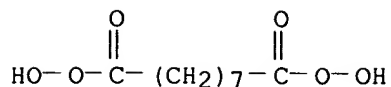
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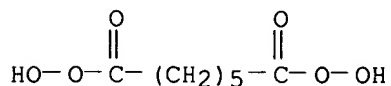
L82 ANSWER 1 OF 3 USPATFULL on STN
AN 2002:330340 USPATFULL
TI Methods of sterilizing with dipercarboxylic acids
IN Singh, Waheguru Pal, College Station, TX, UNITED STATES
   Giletto, Anthony, College Station, TX, UNITED STATES
   Hitchens, G. Duncan, Bryan, TX, UNITED STATES
PA Lynntech, Inc. (U.S. corporation)
PI US 2002188026 A1 20021212
AI US 2001-52908 A1 20011029 (10)
RLI Division of Ser. No. US 2000-733611, filed on 8 Dec 2000, PENDING
DT Utility
FS APPLICATION
LREP Jeffrey L. Streets, STREETS & STEELE, 13831 Northwest Fwy., Ste. 355,
     Houston, TX, 77040
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)
LN.CNT 607
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Dry dipercarboxylic acid material and methods of using dry
   dipercarboxylic acid particulates to form novel sterilizing solutions or
   liquid chemical germicides. The dipercarboxylic acids or organic
   diperoxygen compounds can be synthesized and isolated as solid powders
   with an extended shelf life. The powders are also soluble in water for
   quickly preparing liquid disinfectant solutions, whenever and wherever
   desired, from a potable water source. The dry dipercarboxylic acid
   materials are selected from diperglutaric acid, diperadipic acid,
   diperpimelic acid, dipersuberic acid, and diperazelaic acid. Upon
   dissolution into water, these compounds have demonstrated the ability to
   inactivate high numbers of spores, including sterilization of medical
   equipment in 10 minutes at room temperature.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IN Singh, Waheguru Pal, College Station, TX, UNITED STATES
IN Giletto, Anthony, College Station, TX, UNITED STATES
IN Hitchens, G. Duncan, Bryan, TX, UNITED STATES
PA Lynntech, Inc. (U.S. corporation)
IT 1941-79-3P, Diperazelaic acid. 2455-79-8P, Diperpimelic
   acid 5824-51-1P, Diperadipic acid 28317-46-6P,
   Diperglutaric acid 28317-47-7P, Dipersuberic acid
   (methods of sterilizing with dipercarboxylic acids)
IT 1941-79-3P, Diperazelaic acid. 2455-27-8P, Diperpimelic
   acid 5824-51-1P, Diperadipic acid 28317-46-6P,
   Diperglutaric acid 28317-47-7P, Dipersuberic acid
   (methods of sterilizing with dipercarboxylic acids)
RN 1941-79-3 USPATFULL
CN Nonanediperoxoic acid (9CI) (CA INDEX NAME)

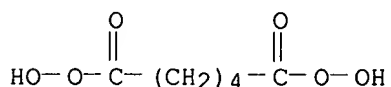
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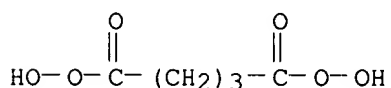
RN 2455-27-8 USPATFULL
CN Heptanediperoxoic acid (9CI) (CA INDEX NAME)



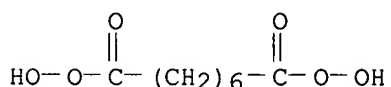
RN 5824-51-1 USPATFULL
CN Hexanediperoxoic acid (9CI) (CA INDEX NAME)



RN 28317-46-6 USPATFULL
CN Pentanediperoxoic acid (9CI) (CA INDEX NAME)



RN 28317-47-7 USPATFULL
CN Octanediperoxoic acid (9CI) (CA INDEX NAME)



L82 ANSWER 2 OF 3 USPATFULL on STN
AN 2002:199178 USPATFULL
TI Methods of sterilizing with dipercarboxylic acids
IN **Singh, Waheguru Pal**, Collage Station, TX, UNITED STATES
 Giletto, Anthony, Collage Station, TX, UNITED STATES
 Hitchens, G. Duncan, Bryan, TX, UNITED STATES
PI US 2002107288 A1 20020808
AI US 2000-733611 A1 20001208 (9)
DT Utility
FS APPLICATION
LREP STREETS & STEELE, P.O. Box 1612, Cypress, TX, 77410-1612
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 555
CAS INDEXING IS AVAILABLE FOR THIS PATENT..

AB Dry dipercarboxylic acid material and methods of using dry dipercarboxylic acid particulates to form novel sterilizing solutions or liquid chemical germicides. The dipercarboxylic acids or organic diperoxygen compounds can be synthesized and isolated as solid powders with an extended shelf life. The powders are also soluble in water for quickly preparing liquid disinfectant solutions, whenever and wherever desired, from a potable water source. The dry dipercarboxylic acid materials are selected from diperglutaric acid, diperadipic acid, diperpimelic acid, dipersuberic acid, and diperazelaic acid. Upon dissolution into water, these compounds have demonstrated the ability to inactivate high numbers of spores, including sterilization of medical equipment in 10 minutes at room temperature.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IN Singh, Waheguru Pal, Collage Station, TX, UNITED STATES

IN Giletto, Anthony, Collage Station, TX, UNITED STATES

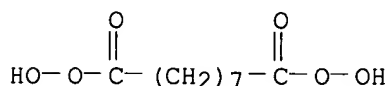
IN Hitchens, G. Duncan, Bryan, TX, UNITED STATES

IT 1941-79-3P, Diperazelaic acid. 2455-27-8P, Diperpimelic acid 5824-51-1P, Diperadipic acid 28317-46-6P, Diperglutaric acid 28317-47-7P, Dipersuberic acid (methods of sterilizing with dipercarboxylic acids)

IT 1941-79-3P, Diperazelaic acid. 2455-27-8P, Diperpimelic acid 5824-51-1P, Diperadipic acid 28317-46-6P, Diperglutaric acid 28317-47-7P, Dipersuberic acid (methods of sterilizing with dipercarboxylic acids)

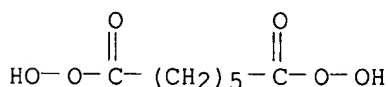
RN 1941-79-3 USPATFULL

CN Nonanediperoxoic acid (9CI) (CA INDEX NAME)



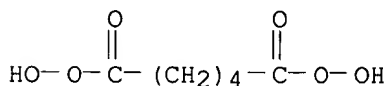
RN 2455-27-8 USPATFULL

CN Heptanediperoxoic acid (9CI) (CA INDEX NAME)



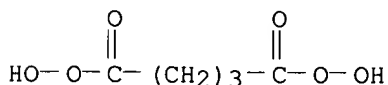
RN 5824-51-1 USPATFULL

CN Hexanediperoxoic acid (9CI) (CA INDEX NAME)

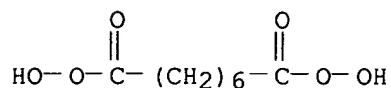


RN 28317-46-6 USPATFULL

CN Pentanediperoxoic acid (9CI) (CA INDEX NAME)



RN 28317-47-7 USPATFULL
 CN Octanediperoxoic acid (9CI) (CA INDEX NAME)



L82 ANSWER 3 OF 3 USPATFULL on STN

AN 78:27220 USPATFULL

TI Drying process

IN Hutchins, James Peyton, Springfield Township, Hamilton County, OH,
 United States

PA The Procter & Gamble Company, Cincinnati, OH, United States (U.S.
 corporation)

PI US 4091544 19780530 <--

AI US 1977-768013 19770211 (5) <--

DT Utility

FS Granted

EXNAM Primary Examiner: Camby, John J.

LREP Mohl, Douglas C., Hemingway, Ronald L., Witte, Richard C.

CLMN Number of Claims: 7

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 547

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for drying a water-wet mixture of materials, at least one of
 which is hydratable, which allows the mixture to be easily formed into
 the desired size and shape and easily and safely dried.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

PI US 4091544 19780530 <--

AI US 1977-768013 19770211 (5) <--

SUMM Water-soluble salts of the higher **fatty acids**, i.e.,
 "soaps," are useful as the anionic surfactant herein. This class of
 surfactants includes ordinary alkali metal soaps such as the sodium,
 potassium, ammonium and alkanolammonium salts of higher **fatty**
acids containing from about 8 to about 24 carbon atoms and
 preferably from about 10 to about 20 carbon atoms. Soaps can be made by
 direct saponification of fats and oils or by the neutralization of free
fatty acids. Particularly useful are the sodium and
 potassium salts of the mixtures of **fatty acids**
 derived from coconut oil and tallow, i.e., sodium or potassium tallow
 and coconut soaps.

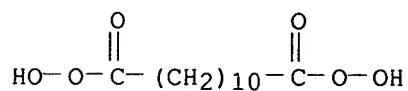
SUMM . . . sodium alkyl glyceryl ether sulfonates, especially those ethers
 or higher alcohols derived from tallow and coconut oil; sodium coconut
 oil **fatty acid** monoglyceride sulfonates and
 sulfates; and sodium or potassium salts of alkyl phenol ethylene oxide
 ether sulfate containing about 1 to . . .

SUMM Other useful anionic surfactants herein include the water-soluble salts
 of esters of α -sulfonated **fatty acids**
 containing from about 6 to 20 carbon atoms in the ester group;
 water-soluble salts of 2-acyloxy-alkane-1-sulfonic acids containing from
 about . . .

SUMM Zwitterionic surfactants include derivatives of aliphatic
quaternary ammonium, phosphonium and sulfonium compounds in
 which the aliphatic moieties can be straight or branched chain, and

wherein one of. . .

IT 66280-55-5P
 (bleaching agents, drying of, in presence of sodium sulfate)
 IT 66280-55-5P
 (bleaching agents, drying of, in presence of sodium sulfate)
 RN 66280-55-5 USPATFULL
 CN Dodecanediperoxoic acid (9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 13:34:44 ON 01 DEC 2005)
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 13:34:54 ON 01 DEC 2005

E DIPERGLUTARIC ACID/CN
 L1 1 S E3
 E DIPERADIPIC ACID/CN
 L2 1 S E3
 E DIPERPIMELIC ACID/CN
 L3 1 S E3
 E DIPERSUBERIC ACID/CN
 L4 1 S E3
 E DIPERAZELAIC ACID/CN
 L5 1 S E3
 L6 5 S L1-L5
 E C2H2O4/MF
 E C3H4O4/MF
 E C2H2O6/MF
 L7 3 S E3
 L8 1 S L7 AND ETHANEDIPEROXOIC ACID/CN
 E C3H4O6/MF
 L9 6 S E3
 L10 1 S L9 AND PROPANEDIPEROXOIC ACID/CN
 E C11H20O6/MF
 L11 168 S E3 AND ACID
 L12 4 S L11 AND ?PEROXOIC?/CNS
 L13 1 S L12 AND UNDECANEDIPEROXOIC
 E C12H22O6/MF
 L14 6 S E3 AND ACID AND ?DIPEROXOIC?/CNS
 L15 1 S L14 AND DODECANEDIPEROXOIC
 L16 9 S L8,L10,L6,L13,L15,L10
 E C3H4O6/MF
 E C4H6O6/MF
 L17 1 S E3 AND ?DIPEROXOIC?/CNS
 E C10H18O6/MF
 L18 4 S E3 AND ?DIPEROXOIC?/CNS
 L19 1 S L18 AND DECANEDIPEROXOIC
 L20 11 S L16,L17,L19
 L21 STR
 L22 9 S L21 CSS SAM
 L23 224 S L21 CSS FUL
 SAV TEMP L23 QAZI733/A

L24 95 S L23 AND NC>=2
 L25 31 S L24 NOT (MXS OR PMS)/CI
 L26 16 S L25 AND SALT
 L27 3 S L26 AND S/ELS
 L28 13 S L26 NOT L27
 L29 129 S L23 NOT L24

FILE 'HCAOLD' ENTERED AT 13:49:48 ON 01 DEC 2005

L30 31 S L20 OR L28 OR L29
 L31 1 S L30 AND BLEACH?
 L32 30 S L30 NOT L31
 SEL AN L31
 EDIT /AN /OREF

FILE 'HCAPLUS' ENTERED AT 13:51:19 ON 01 DEC 2005

L33 2 S E1
 L34 1 S L33 NOT MURAI ?/AU
 L35 544 S L20 OR L28 OR L29
 L36 0 S L34 AND L35
 L37 1 S (US20020107288 OR US20020188026)/PN OR (US2000-733611# OR US2
 E SINGH W/AU
 L38 9 S E3,E8
 L39 23 S E15-E18
 E WAHEGURU/AU
 E GILETTO A/AU
 L40 16 S E3,E4
 E HITCHENS G/AU
 L41 49 S E4-E5
 E LYNNTECH/PA,CS
 L42 126 S E3-E25
 E LYNN TECH/PA,CS
 L43 2 S L35 AND L37-L42
 E CARBOXYLIC ACID/CT
 L44 1400 S CARBOXYLIC ACIDS?/CT (L) PEROX?
 L45 66 S CARBOXYLIC ACIDS?/CT (L) PEROX?(L)DI
 L46 5 S L37-L42 AND L44,L45
 L47 5 S L43,L46
 SEL AN DN 2 3 4
 L48 3 S L47 AND E1-E9
 L49 69 S (L20 OR L28 OR L29) (L) PREP+NT/RL
 L50 65 S L49 AND (PY<=2000 OR PRY<=2000 OR AY<=2000)
 L51 4 S L49 AND DRY?
 L52 4 S L49 AND ?POWD?
 L53 1 S L49 AND HYDRAT?
 L54 28 S L49 AND (H2O OR WATER)
 L55 4 S L51,L52 AND L53,L54
 SEL DN AN 1 3
 L56 2 S L55 AND E10-E15
 L57 24 S L54,L53 NOT L55
 SEL DN AN 2 12
 L58 2 S L57 AND E16-E21
 L59 35 S L50 NOT L51-L58
 L60 28 S L59 AND (H2O2 OR HYDROGEN PEROXIDE)
 L61 7 S L59 NOT L60
 L62 7 S L34,L48,L56,L58 AND L33-L61
 L63 1 S L62 AND L34
 L64 6 S L62 NOT L63

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FILE 'HCAOLD' ENTERED AT 14:09:06 ON 01 DEC 2005

FILE 'HCAPLUS' ENTERED AT 14:09:24 ON 01 DEC 2005

FILE 'USPATFULL' ENTERED AT 14:10:51 ON 01 DEC 2005

L65 44 S L20/P OR L28/P OR L29/P
L66 42 S L65 AND (PY<=2000 OR PRY<=2000 OR AY<=2000)
L67 20 S L65 AND FATTY ACID?/BI,CT
L68 10 S L65 AND QUAT?/BI,CT
L69 20 S L67,L68
L70 43 S L65 AND (H2O2 OR HYDROGEN PEROXIDE)

FILE 'REGISTRY' ENTERED AT 14:13:43 ON 01 DEC 2005

L71 1 S HYDROGEN PEROXIDE/CN

FILE 'HCAPLUS' ENTERED AT 14:13:52 ON 01 DEC 2005

FILE 'USPATFULL' ENTERED AT 14:13:58 ON 01 DEC 2005

L72 15 S L71 AND L65
L73 43 S L70,L72
L74 2 S L65 AND (SINGH W? OR HITCHENS ? OR GILETTO ?)/AU
L75 1 S L65 AND LYNNTECH?/PA
L76 2 S L74,L75
L77 42 S L65-L70,L72-L73 NOT L76
L78 9 S L6 AND L77
L79 9 S L78 AND L70,L72
L80 33 S L77 NOT L79
L81 1 S L80 NOT L70,L72
L82 3 S L76,L81
L83 29 S L65 AND DRY?
L84 3 S L83 AND L82
L85 26 S L83 NOT L84
L86 24 S L85 NOT L79
L87 0 S L86 NOT L70,L72

FILE 'USPATFULL' ENTERED AT 14:20:17 ON 01 DEC 2005

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